WMDT Fisheries Briefing

OUTLINE

- Fish Biology
- Existing Regulatory Measures
- Proposal for New Protective Actions
  - Assumptions
  - Physical Facilities
  - Operational Features

1

WMS Goals for Fish

Stage 1 Goal

- Provide conditions allowing a trajectory towards species recovery, which includes:
  - CALFED, CVPIA, and other actions
  - In-Delta and out-of-Delta actions
  - Operations and habitat restoration

2

Fish Timing

- Four Major Periods in the year:
  - October through January
  - February and March
  - April through June
  - July through September

3

October through January

- Early winter-run fry October to mid-November
- End of yearling green Sturgeon out-migration
- Spring-run yearlings from Deer and Mill creeks
- Fall-run yearlings, late fall-run, and steelhead can begin migration in November
- Fall-run salmon fry beginning mid-December
- Adult delta smelt spawning migrations as early as December
- Longfin smelt spawning run

4

February and March

- Winter-run and late fall-run smolts
- Salmon fry peak
- Delta smelt spawn (wetter years)
- Longfin smelt peak spawning
- Steelhead smolt emigration peak
- Sacramento splittail upstream spawning migration

5

April through June

- Fall-run smolt emigration
- Winter-run outmigration peak, March and early April, (most years)
- If hydrology is drier, delta smelt begin spawning
- Peak Sacramento splittail spawning
- Striped bass spawn and juvenile emigration

6

July through September

- Green sturgeon young of the year emigration
- Critical period for striped bass rearing in the Delta
- High Delta productivity which begins in May
  - Few juvenile salmonids present
  - Delta smelt in the western Delta
  - Longfin smelt in the western Delta or San Pablo Bay

7

Current Regulatory Protections

- Delta smelt Biological Opinion
- Winter-run Biological Opinion
- WQCP as Implemented through BO's and Accord
- CVPIA

8

Components of Biological Opinions for Delta Smelt

- Used NMFS Biological Opinions & CVPIA as baseline
- Established habitat & transport flows for Sacramento & San Joaquin Rivers' contributions to the Delta
- Established salinity criteria (X2) as a necessary biological parameter
- Recognized critical dry periods as potentially needing operational flexibility

9

Components of Biological Opinion for Winter-Run Chinook Salmon

- Established temperature criteria and water management below Shasta Dam
- Modified operations at Red Bluff Diversion Dam
- Modified operations of Delta Cross Channel Gates
- Set minimum Qwest criteria

10

Bay-Delta Accord

- Set NMFS/FWS Biological Opinions & CVPIA as baseline
- Established X2 criteria based upon hydrologic conditions for February through June
- Substituted export/inflow relationship for Qwest
- Recognized need for non-flow measures (Category III)
- Established CALFED Bay-Delta Program
- Only for limited Time Period

11

CVPIA Fish Protective Actions

Examples of potential b(2) actions

- Vernalis Adaptive Management Plan (VAMP) (April/May)
- Head of Old River Barrier (April/May)
- Additional X2 protection (March-June)
- Evaluation of Sacramento River flow for striped bass
- Ramping export/San Joaquin inflows (late May)
- Increased Delta Cross Channel closure (November-January)
- Export limits based on X2 location (July)
- Evaluation of exports to salmon survival (Dec./Jan.)
- Minimum instream flows for spawning and migration

12

Fish Protection Proposal

- Introduction
- Assumptions
- Physical Features
- Operational Features

13

Fish Protection Proposal

Introduction

- Created by FWS/NMFS/DFG fishery biologists.
- Provides conditions suitable for restoration of fishery resources
- Provides protections sufficient to allow for water user assurances.

14

Role of EWA

- Fill deficiencies in existing in-Delta protections, with flexibility
- Augment upstream flows and temperature
- Adaptive management experimentation

15

Assumptions Integral to Implementation

- All CVPIA actions including In-Delta b(2)
- The WQCP except as modified by the following operational criteria
- Full implementation of the Habitat Plan developed and prioritized by the DEFT Team (specific targets need to be developed)
- ERP implementation addresses upstream and in-Delta restoration

16

Changes, Justifications, and Support

- Operational Features
  - October through January
  - February and March
  - April through June
  - July through September

17

Operational Features

1962 LOD X2 (March - June)

- Same feature as in November 20 b(2) decision
- X2 provides ecosystem benefits for Delta and native fishes
- 1962 LOD not applied in February due to adverse upstream impacts on winter-run salmon
- By providing X2 flows from all contributing watersheds, anadromous fish benefits are provided from spawning grounds to the Bay

18

October - January Operations

- QWEST >0
- E/I ratio until QWEST triggered by CWT late fall-run monitoring (serves as a surrogate for spring-run)
- Operations change in effect until February, when next criteria apply
- Additional benefits for other juvenile salmon, and Delta species including delta smelt and longfin smelt
- DCC closure on November 1 unless monitoring indicates a need earlier with potential water quality considerations

19

February -March Operations

- Neither Accord nor b(2) considered the large numbers of salmon fry occurring in Delta after high run-off events
- Two operational changes during this period:
  1. If fry salvaged, or a San Joaquin flow event, exports reduced for 10 days
     -allows fry to disperse and find rearing habitat
     -export reductions reduce salvage
  2. Replace E/I with Qwest criteria: >1000 in dry (8RI <1.0 MAF) years, >0 in other years
     - The components of QWEST maintain appropriate behavioral cues and habitat conditions for delta fish spawning and anadromous fish outmigration

20

April - June Operations

Existing protections

- Accord provided limited protection for SJ salmon, juvenile delta smelt, and splittail.
- In-delta b(2) actions (VAMP) has made an incremental improvement.
- WQCP provides pulse flows.
- Delta smelt BO instituted export constraints

21

April - June Operations

Proposed Protections

- Retain core VAMP while providing additional flows and export reduction from April 1 to June 15.
- Monitoring and triggers (for salmon and smelt) would determine actual on/off dates.
- HOR barrier in place; triggers for its removal.
- Ramping criteria for exiting VAMP in place (Delta Action 5)
- June-July b(2) ramping criteria (Delta Action 7) in place

22

July - September Operations

Existing Protections

- Delta Action 7 (ramping based on X2 location)
- Accord export constraints (0.65 E/I)
- Minimum outflow standards (WQCP)

These criteria are still needed to provide suitable estuarine conditions to maintain delta native fish in rearing habitat through the summer.

23